

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 1, line 19, with the following rewritten paragraph:

As shown in figure 10, the conventional tracking error detection apparatus is provided with a photodetector 101 having photoreceptor elements 101a, 101b, 101c, and 101d that receive a reflected light beam from a light spot, and outputting photo currents according to the amounts of light received by the respective photoreceptor elements; first to fourth current-to-voltage converter 102a to 102d for converting the photo currents outputted from the photodetector 101 into voltage signals; signal generators, i.e., first and second adders 103a and 103b, for generating two signal sequences whose phases change depending on a tracking error of the light spot, from the voltage signals obtained by the first to fourth current-to-voltage converter 102a to 102d; first and second analog-to-digital converters (ADC) 104a and 104b for obtaining first and second digital signal sequences from the two signal sequences; first and second interpolation filters 105a and 105b for subjecting the inputted digital signals to interpolation; first and second zero cross point detection circuits 106a and 106b for detecting zero cross points of the first and second digital signal sequences which are interpolated by the first and second interpolation filters 105a and 105b, respectively; a phase difference detection circuit 107 for detecting a phase difference between the zero cross point of the first digital signal sequence and the zero cross point of the second digital signal sequence; and a low-pass filter (LPF) 108 for subjecting a phase comparison signal outputted from the phase difference detection circuit 107 to band restriction to obtain a tracking error signal. The photodetector 101 comprises the four photodetector elements 101a, 101b, 101c, and 101d which are partitioned in a tangential direction and a perpendicular direction with respect to an information track that is recorded as an information pit line on the recording medium. Among the signals which are generated according to the amounts of light received by the respective photoreceptor elements and are outputted from the photodetector 101, the output signals from the photoreceptor elements positioned on a diagonal line are added by each of the first and second adders 103a and 103b, thereby generating two sequences of digital signals. Further, a zerocross point is a point where an

inputted digital signal intersects a center level of the digital signal that is calculated from an average value or the like of the digital signal.

Please replace the paragraph at page 6, line 12, with the following rewritten paragraph:

With reference to the phase comparison inputs A and B shown in figure 21, O indicates sampling data obtained by the first or second ADC 104a or 104b, Δ indicates interpolation data sequences obtained by the first or second interpolation filters 105a or 105b, and \bullet and \blacktriangle indicate zerocross points obtained from the sampling data sequences and the interpolation data sequences. Further, the phase comparison signal shown in figure 21-12 is obtained with respect to a vicinity of a specific track, and it is obtained at the falling edges of the two data sequences a phase difference of which should be obtained. Further, the number of interpolation data is 3 ($n = 3$).